



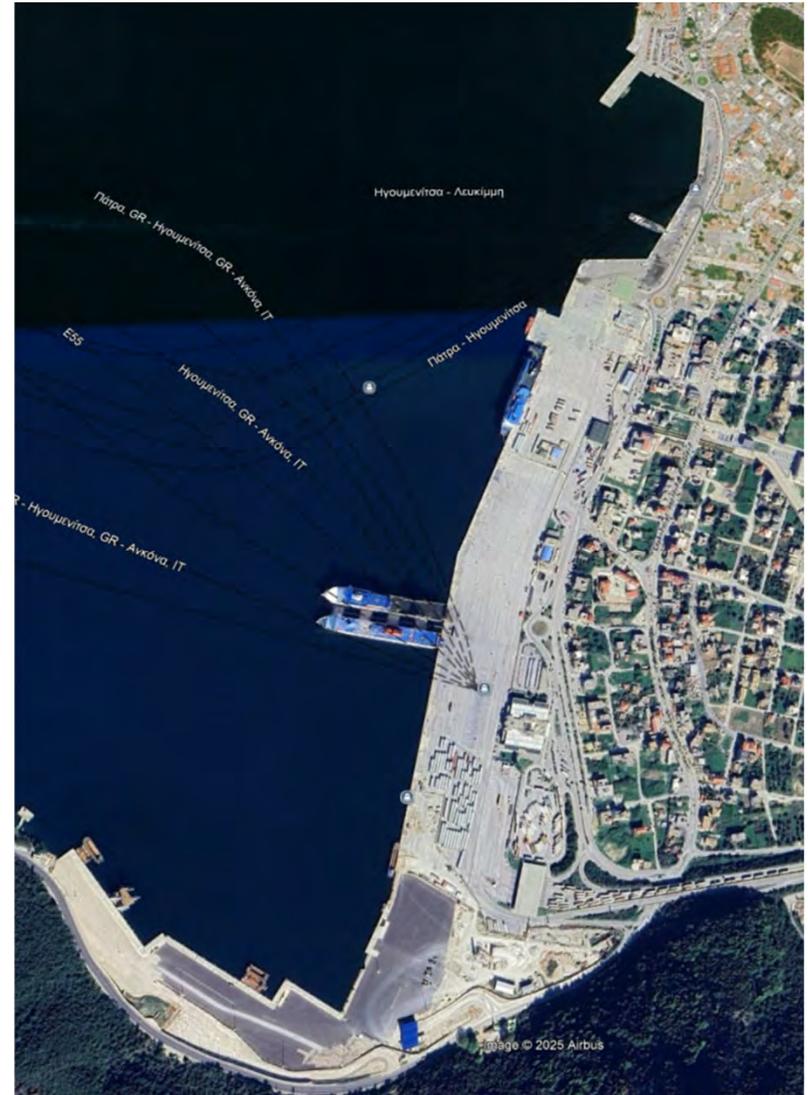
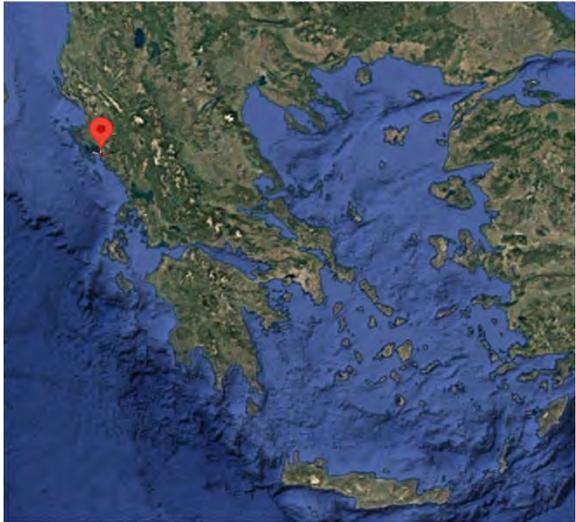
IGOUMENITSA
PORT AUTHORITY S.A.

October 2025



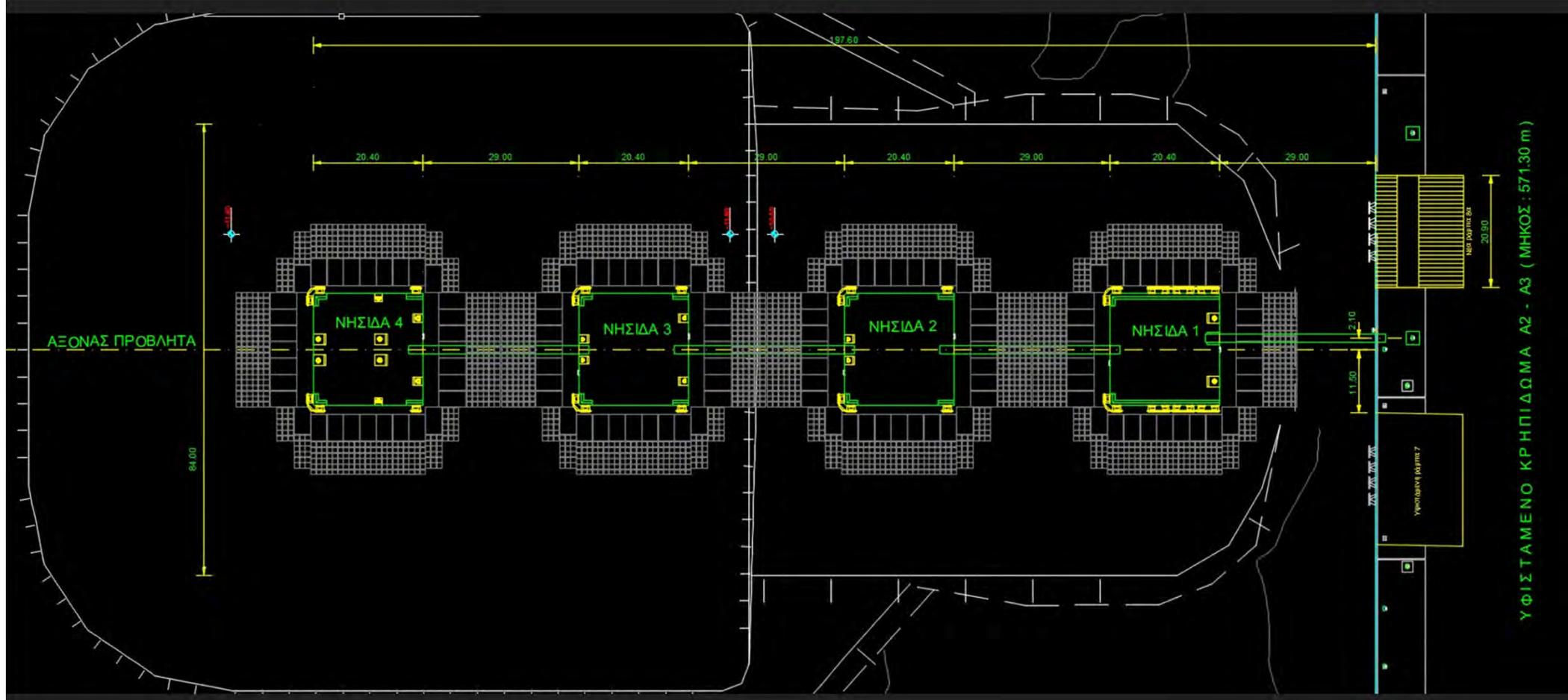
Port of Igoumenitsa - Fendering System Inspection

Port Plan Drawing ([click to open](#))



Dolphins Plan

[\(click to open\)](#)



ΥΦΙΣΤΑΜΕΝΟ ΚΡΗΠΙΔΩΜΑ Α2 - Α3 (ΜΗΚΟΣ : 571.30 m)

Dolphins 1-4 / Northern Side Current Situation

Dolphins 1-4 / Northern Side



Dolphins 1-4 / Northern Side



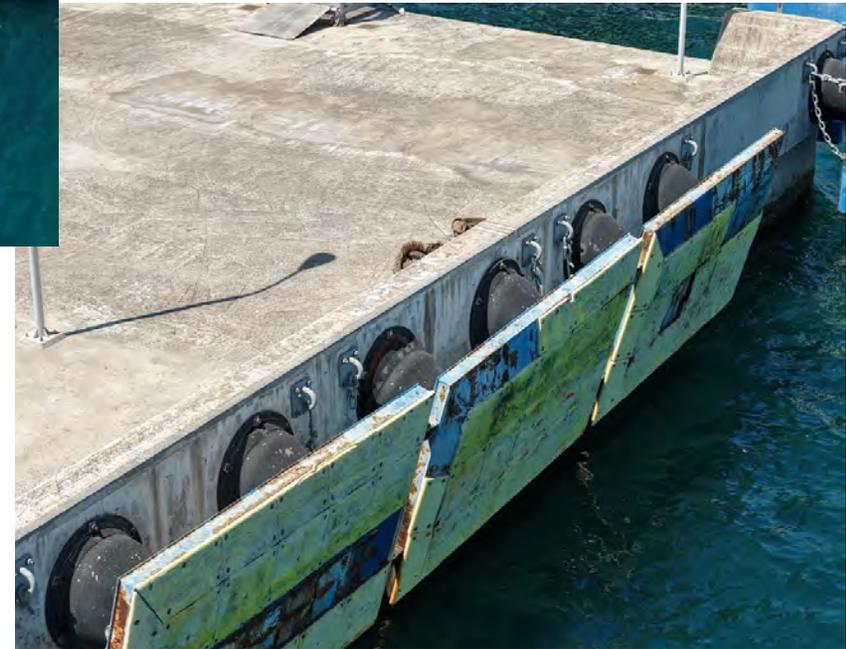
Dolphins 1-4 / Northern Side



Dolphins 1-4 / Northern Side / View from Ramp 8

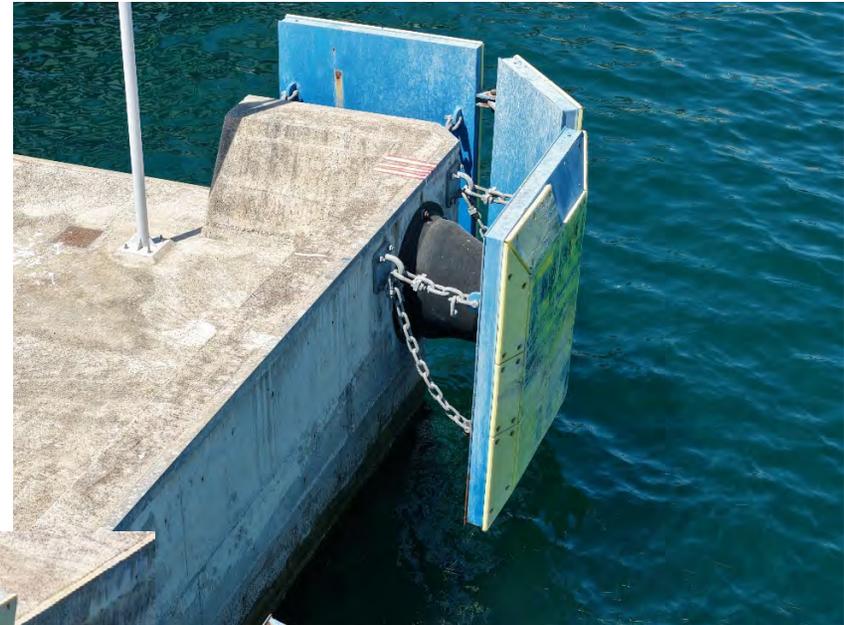


Existing Fenders on D1-N



- Steel Panels heavily corroded
- PE pads missing
- Chains sets mostly missing
- Rubber cones degraded due to aging

Existing Fenders on D1-N

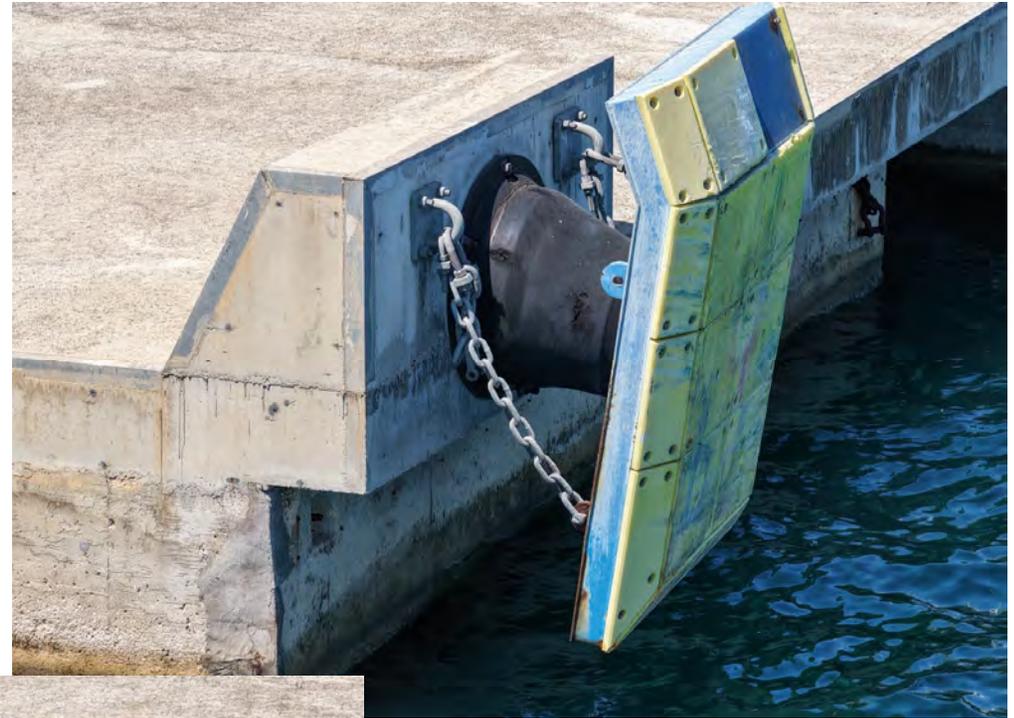


- Steel Panels need maintenance
- PE pad missing
- Chains sets in place
- Rubber cones to be controlled

Existing Fenders on D2-N

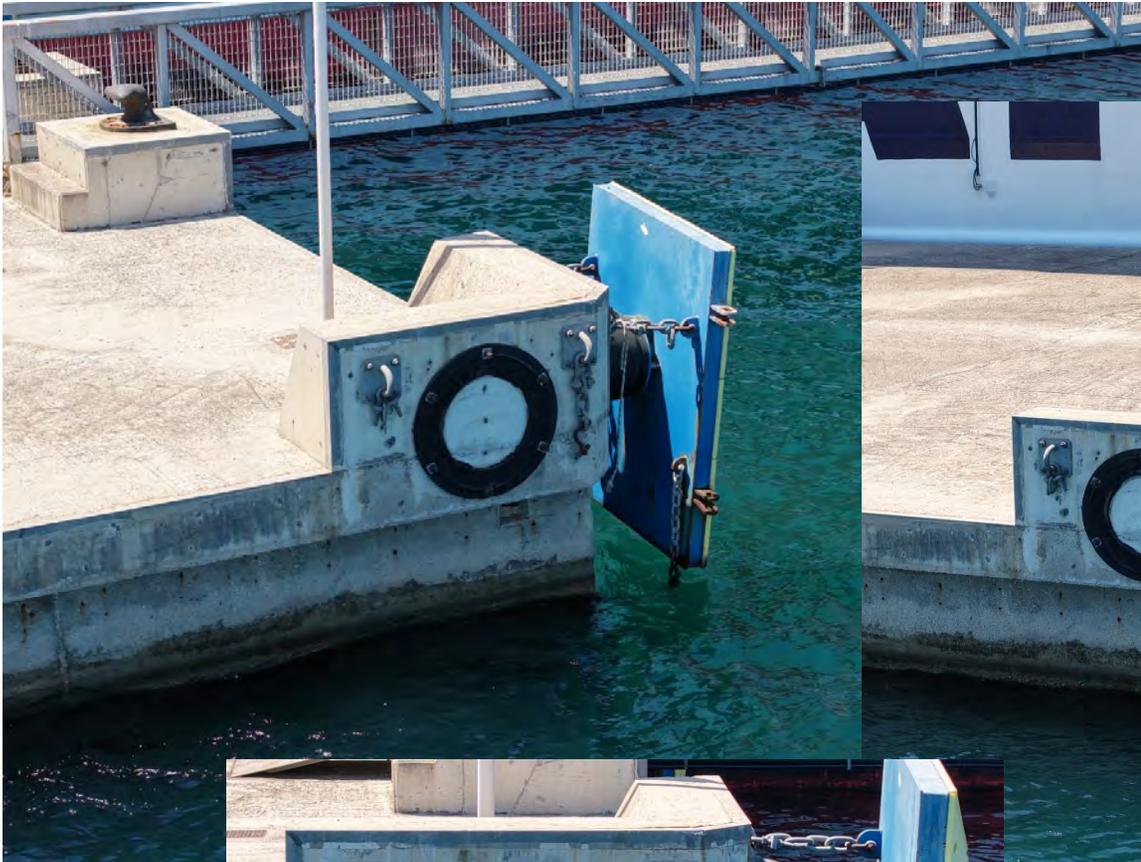


Fender D2-N-1
Single SCN800 E3.0



- Steel Panel needs maintenance
- PE pad missing
- Tension Chain missing
- Rubber cone to be controlled

Existing Fenders on D2-N



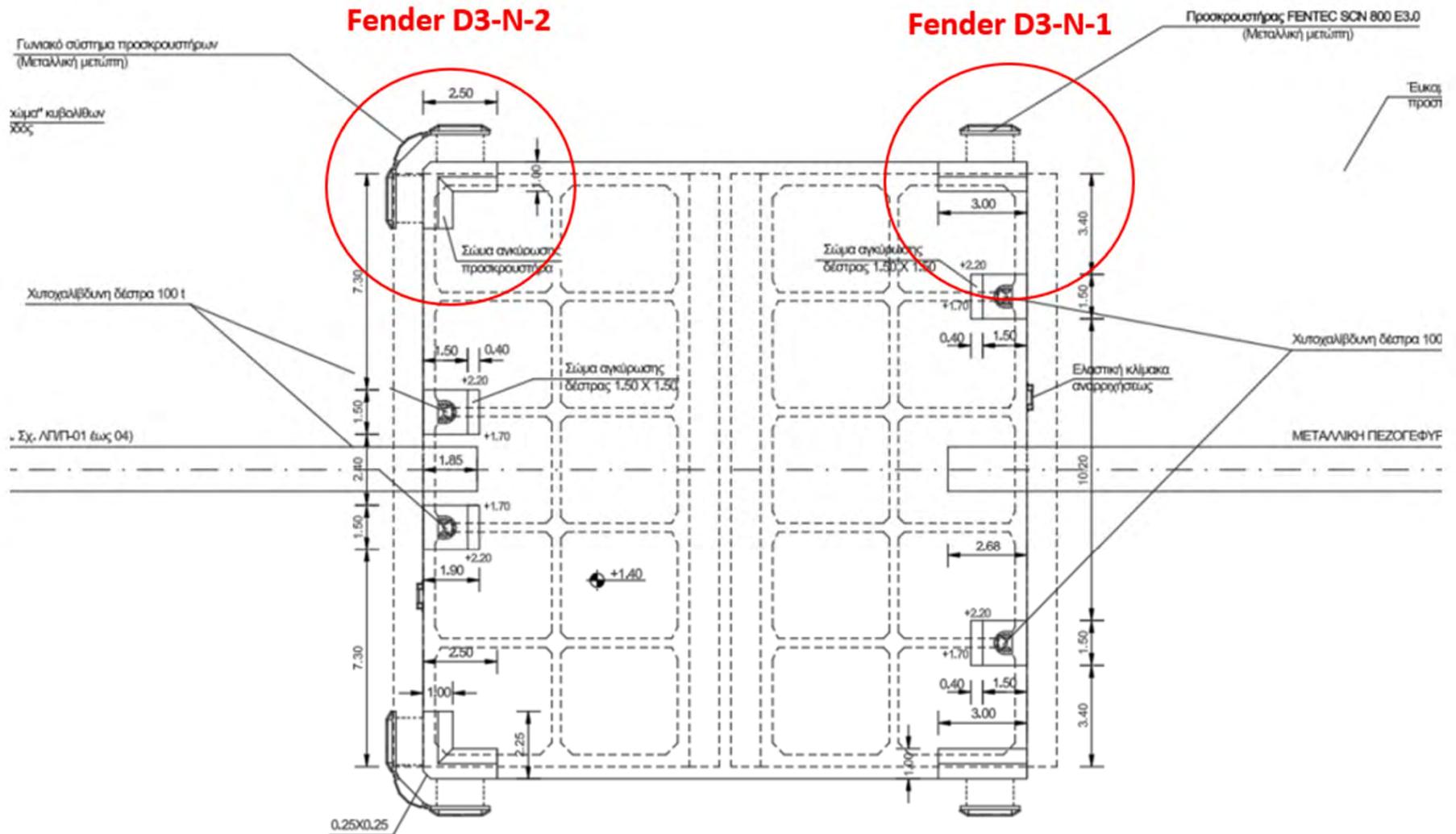
**Fender D2-N-2
Corner SCN800 E3.0 (one side missing)**



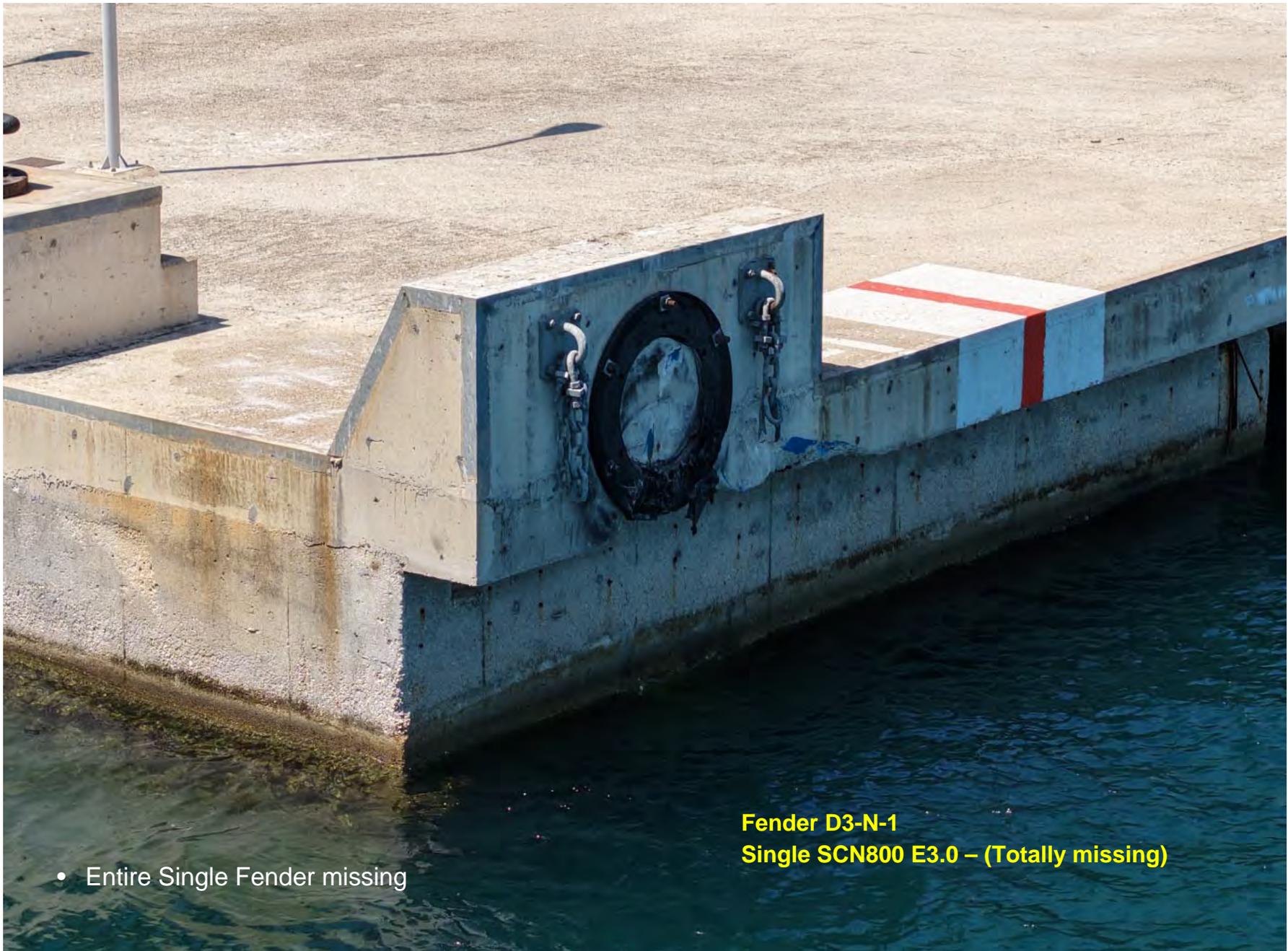
- One fender + middle panel totally missing
- Weight chain missing in remaining fender

Original Fendering Plan Northern Side D3-N

Dolphin no 3



Existing Fenders on D3-N



- Entire Single Fender missing

Fender D3-N-1
Single SCN800 E3.0 – (Totally missing)

Existing Fenders on D3-N



- Entire Corner Fender missing



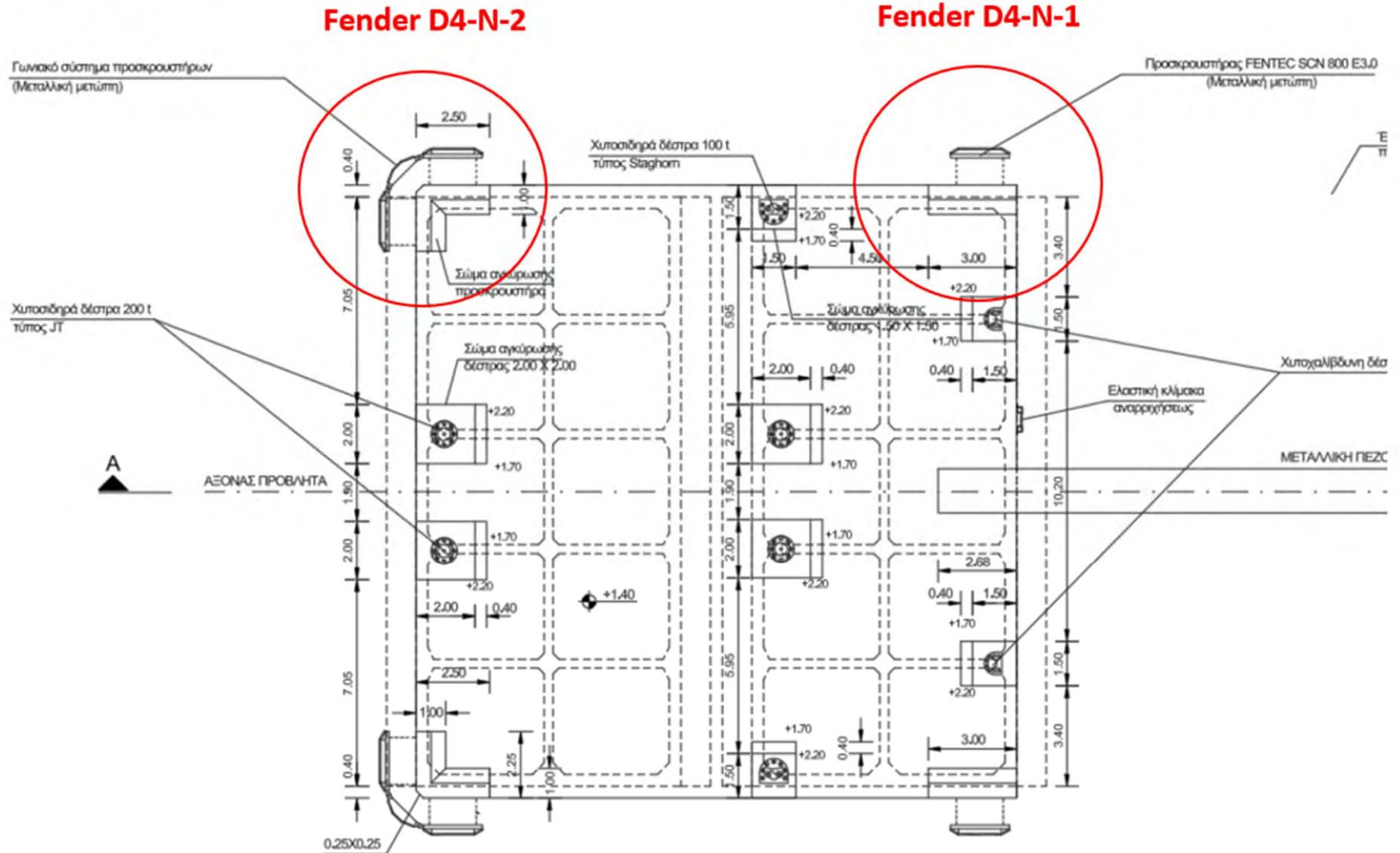
Fender D3-N-2
ex Corner SCN800 E3.0 – (missing, replaced by tires)

Damage on Ship at D3-N



Original Fendering Plan Northern Side D4-N

Dolphin no 4



Existing Fenders on D4-N



- Steel Panel damaged
- Few PE pads + bolts need replacement
- Tension & Weight Chains missing
- Rubber cone to be controlled

Fender D4-N-1
Single SCN800 E3.0

Existing Fenders on D4-N



- Steel Panels require maintenance
- Rubber cones to be controlled



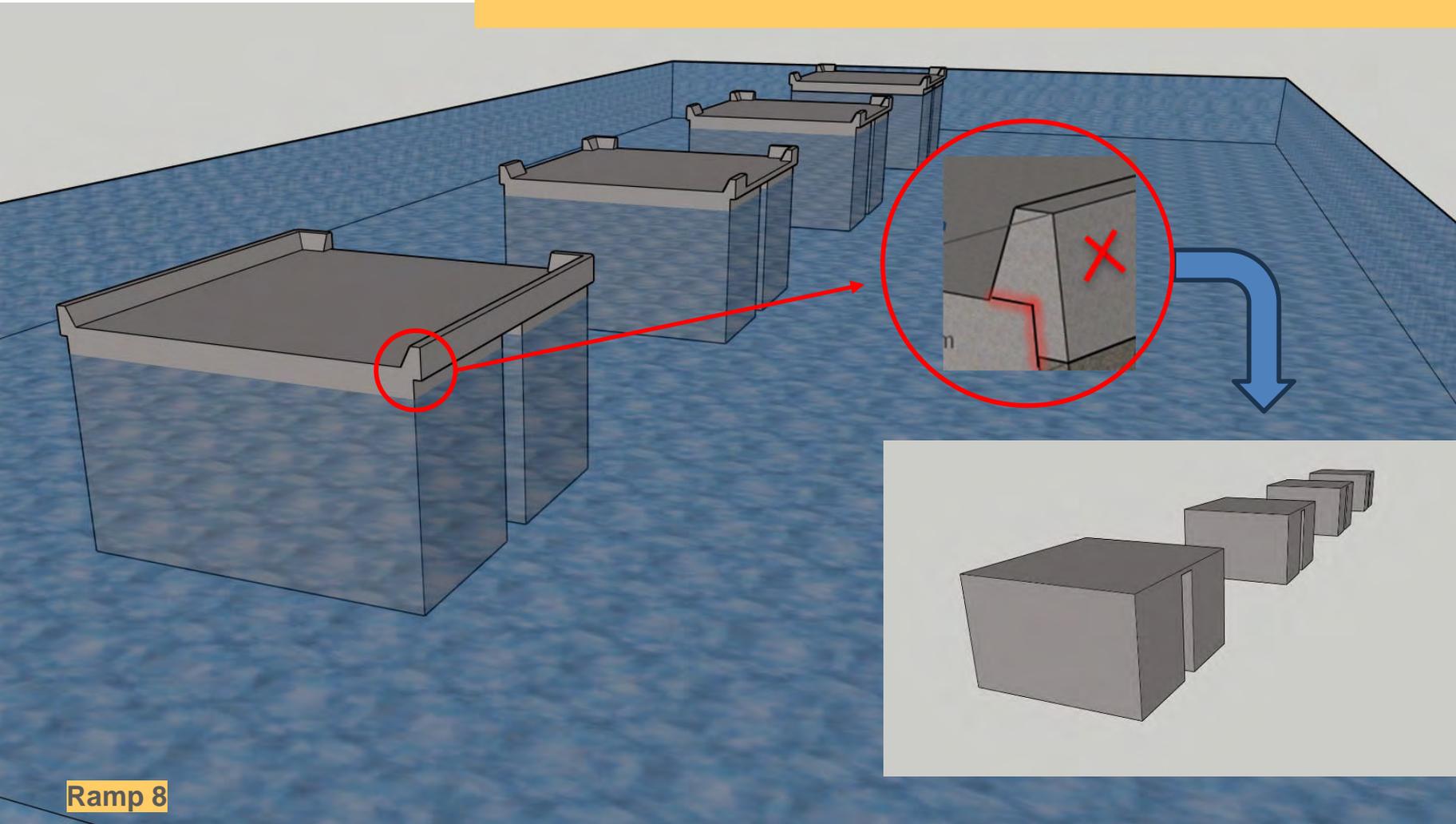
**Fender D4-N-2
Corner SCN800 E3.0**

Proposed Upgrade with
Floating Foam Fenders
Trelleborg Seaguard Type

Preparation Works Dolphins 1-4 Northern Side

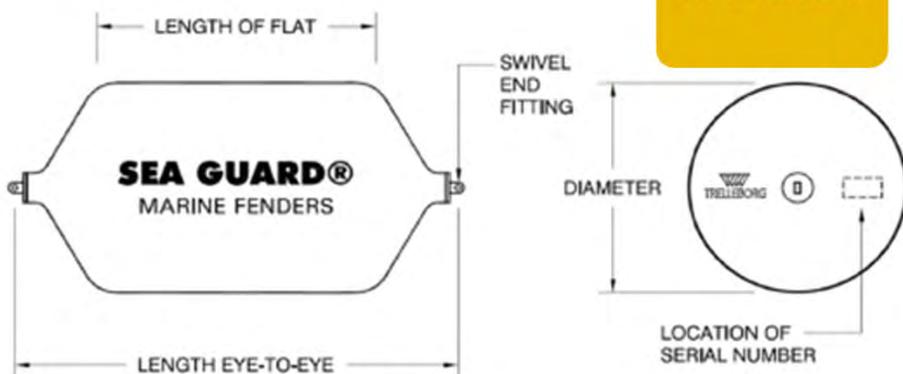
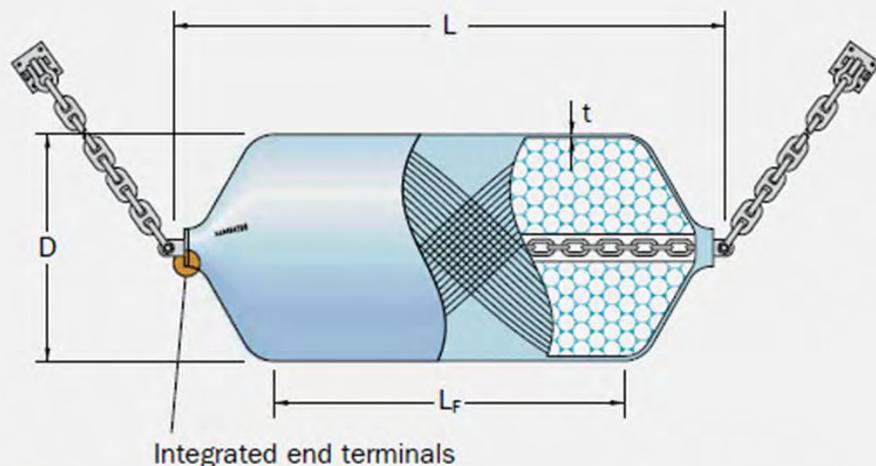
Works:

- 1- Remove remaining old Fentek SCN800 fenders
- 2- Demolish all Buttress & Extensions
- 3- Build new buttress 1,0m high to support floating fender compression.
- 4- Level wall face at fendering level
- 5- Install pad eyes for floating fenders 4x per fender



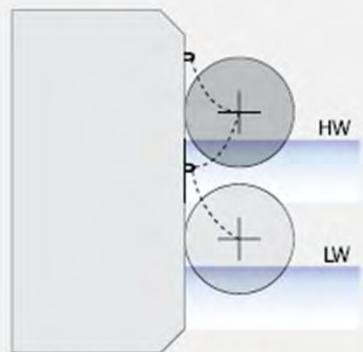
Foam Fenders – SeaGuard®

RAL 1023



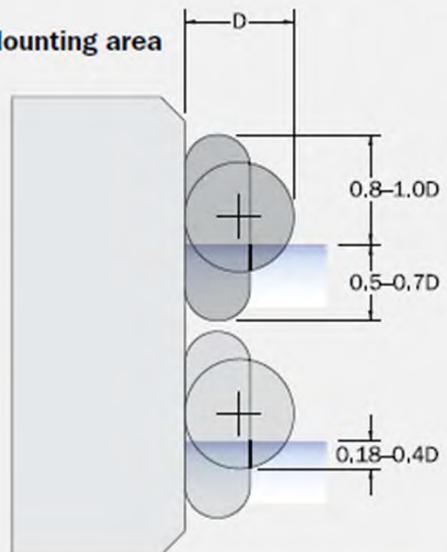
-  Closed cell foam core
-  Polyurethane skin
-  Fixings
-  Filament reinforcement
-  Internal chains
-  Serial number

Mooring applications



Floating or suspended

Mounting area



STANDARD SEA GUARD® MARINE FENDER

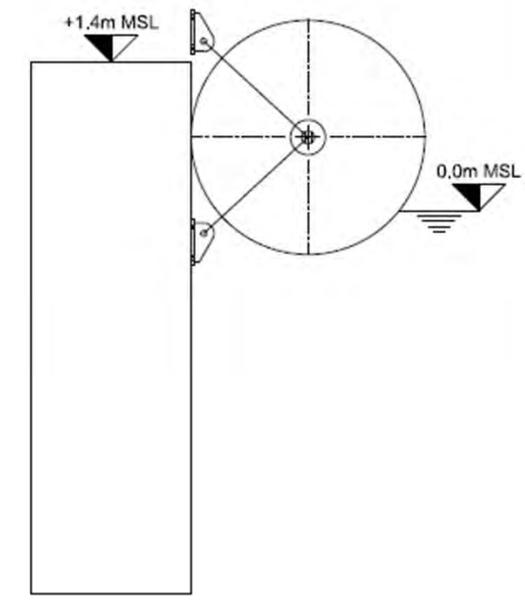
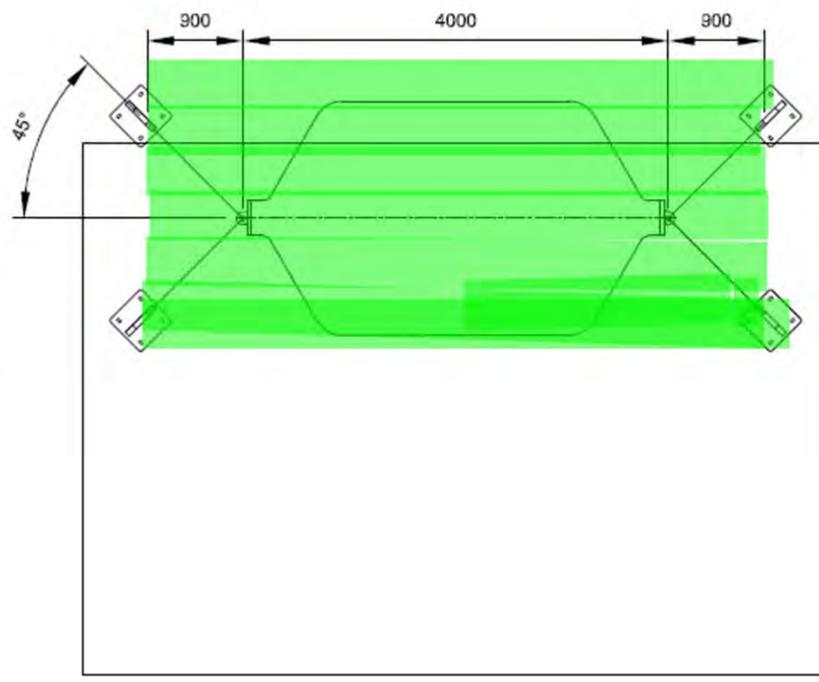
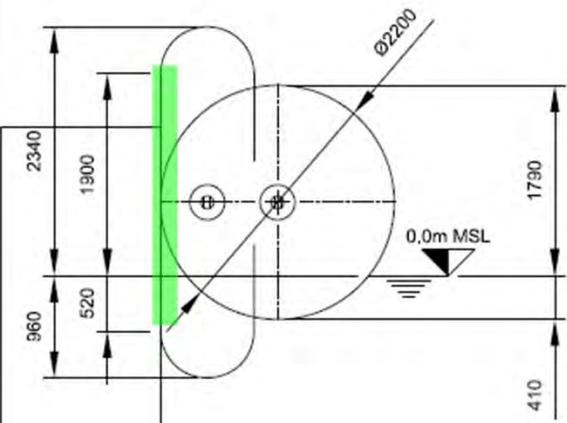
SIZE:	2200mm x 4000mm	English	Metric
PERFORMANCE* (at 60% COMPRESSION)			
Energy absorption		474 ft-kip	643 kN-m
Reaction Force		245 kip	1088 kN
Average reaction pressure		3.2 kip/ft ²	154 kPa
DIMENSIONS:			
Diameter		7.2 ft	2.2 m
Length eye-to-eye		13.1 ft	4.0 m
Length of flat		7.9 ft	2.4 m
Skin Thickness		0.82 in	21 mm
FOOTPRINT (at 60% COMPRESSION):			
Maximum width		8.0 ft	2.4 m
Maximum length		10.4 ft	3.2 m
Area		76.0 ft ²	7.1 m ²
SHIPPING DATA:			
Weight		2865 lb	1303 kg
Cube		705 ft ³	20.0 m ³
RECOMMENDED SIZES OF ACCESSORIES & FITTINGS:			
Chain		1.50 in	38 mm
Shackles		1.50 in	38 mm
OTHER DATA:			
Safe working end-pull load		34 kip	151 kN
Standoff distance:			
Maximum		7.2 ft	2.2 m
at 60% Compression		2.9 ft	0.9 m

* Actual values for all sizes may vary from stated values due to variations in material properties, dimensional tolerances, temperature and speed of compression

Supporting structures must be large enough to cope with tides and the fender footprint when compressed.

Proposed Fendering Upgrade - GA

Footprint area

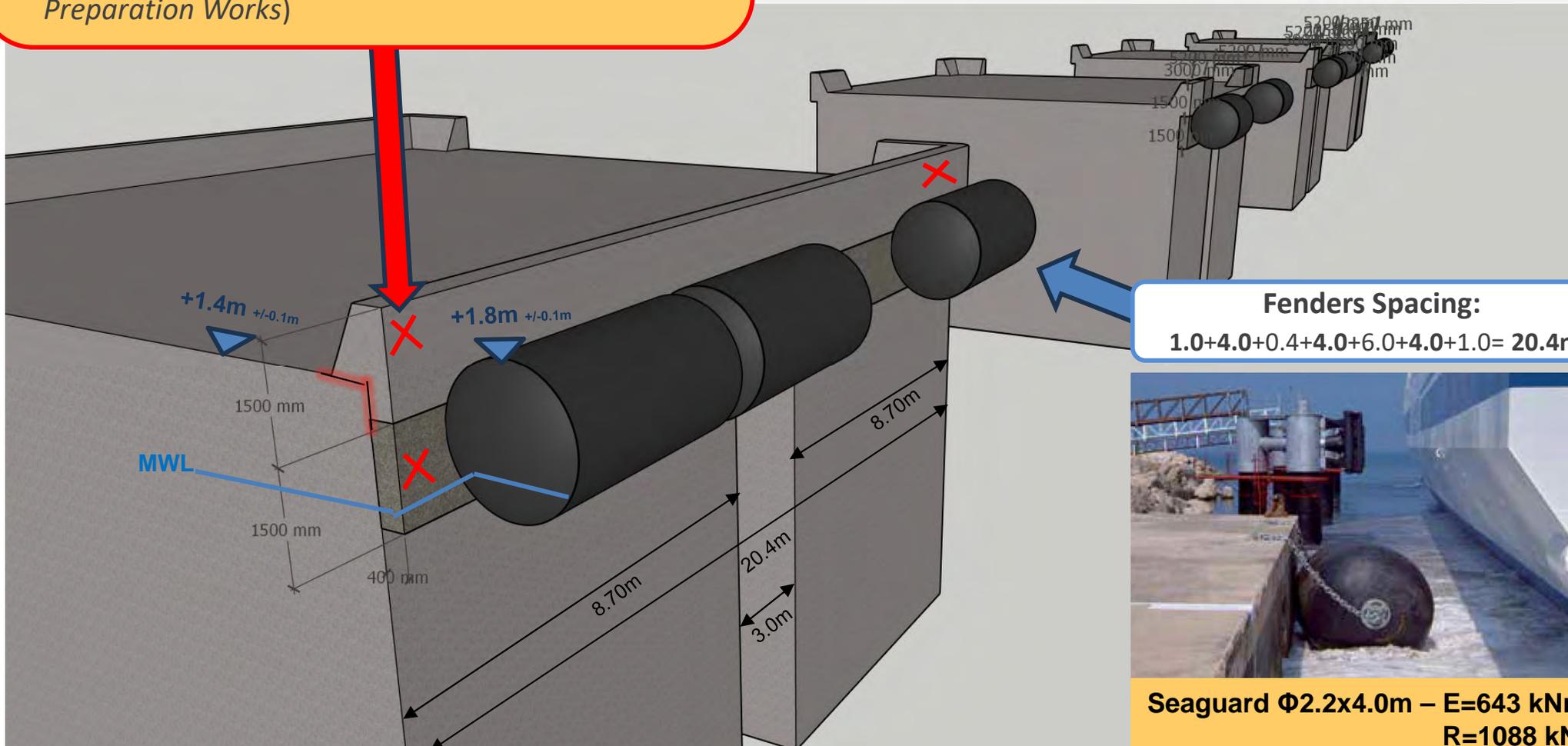


Fendering Upgrade – Dolphin 1

1. Buttress Extension to be demolished.
2. New buttress to be built 1,0m high x 6m long behind each fender to support it when compressed (*Fender Reaction= 1088 kN*).
3. The concrete wall area behind fender to be levelled and cleaned 2.42m high x 6m long x (see fender footprint).
4. 4x suspension padeyes per fender to be installed (see Preparation Works)

Foam Fender $\Phi 2.2 \times 4.0 \text{m}$

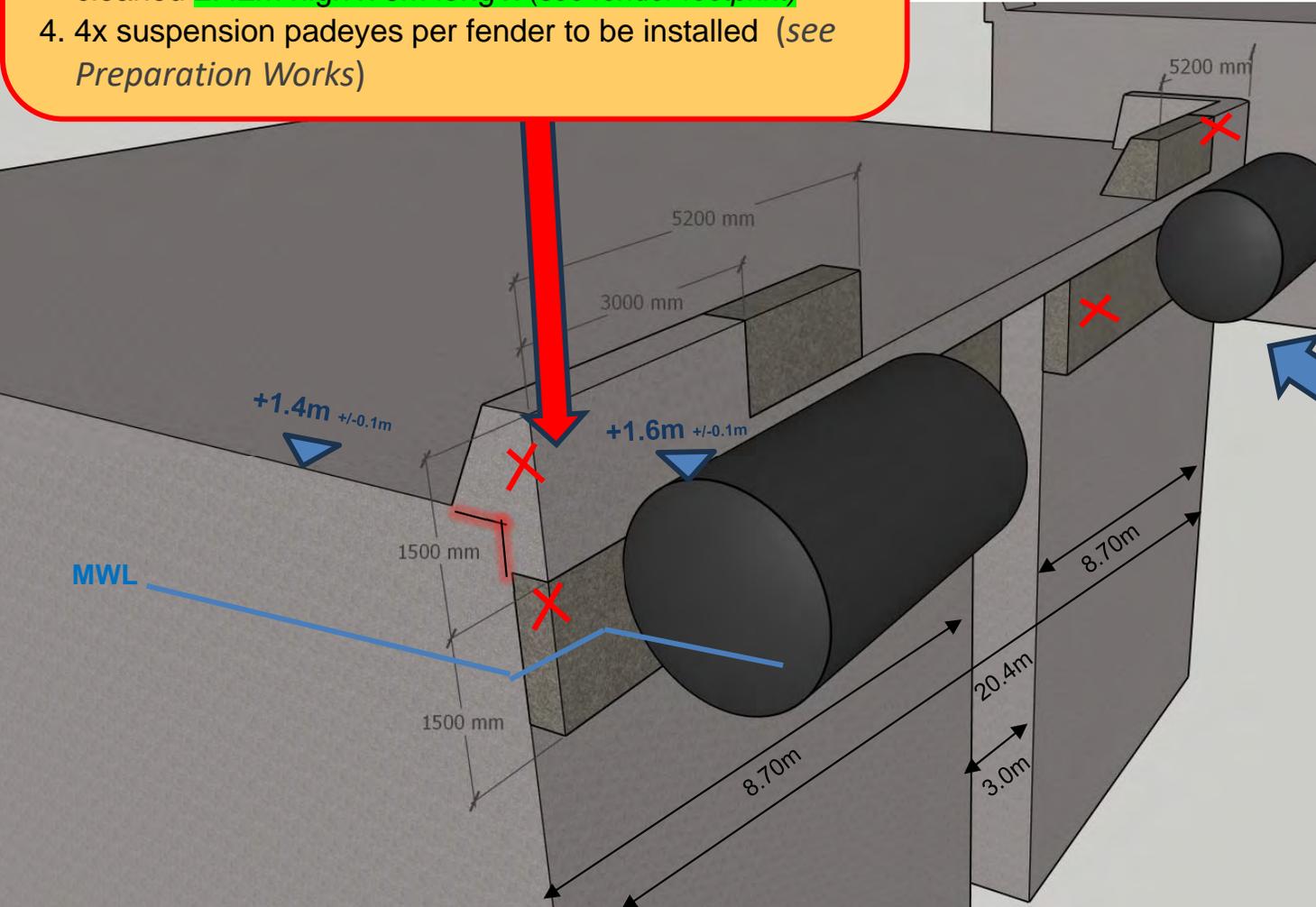
Uncompressed dia: 2.2m (1.8m above +0.4m below WL)
Compressed Footprint : 2.4m (1.9+0.5m) high x 3.2m long



Fendering Upgrade – Dolphins 2,3,4

1. Buttress Extension to be demolished.
2. New buttress to be built 1,0m high x 6m long behind each fender to support it when compressed (*Fender Reaction= 1088 kN*).
3. The concrete wall area behind fender to be levelled and cleaned 2.42m high x 6m long x (see fender footprint)
4. 4x suspension padeyes per fender to be installed (see Preparation Works)

Foam Fender $\Phi 2.2 \times 4.0\text{m}$
Uncompressed dia: 2.2m (1.8m above +0.4m below WL)
Compressed Footprint : 2.4m (1.9+0.5m) high x 3.2m long



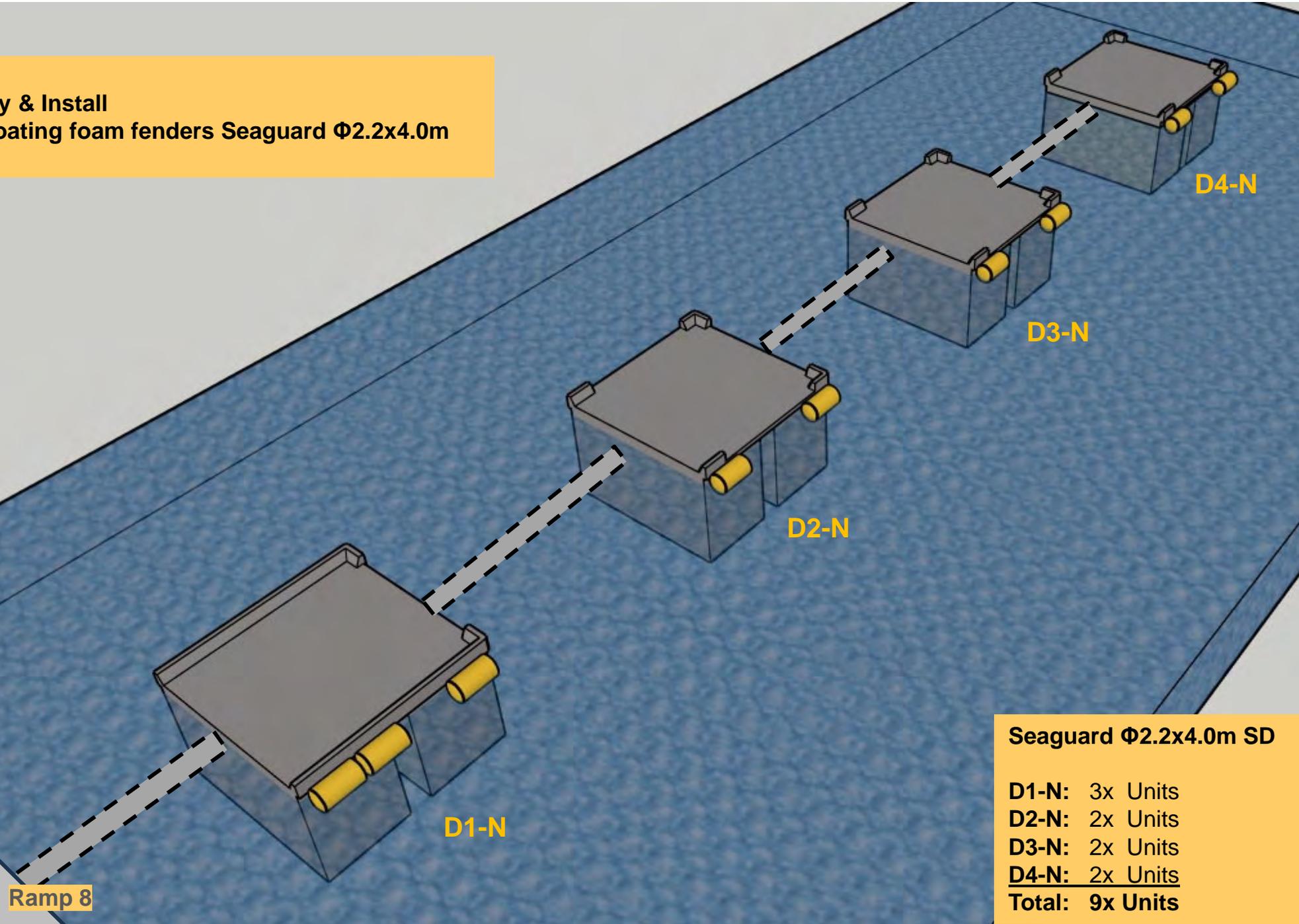
Fenders Spacing:
 $1.0 + 4.0 + 10.4 + 4.0 + 1.0 = 20.4\text{m}$



Seaguard $\Phi 2.2 \times 4.0\text{m}$ – E=643 kNm

Proposed Fendering Upgrade Dolphins 1-4 Northern Side

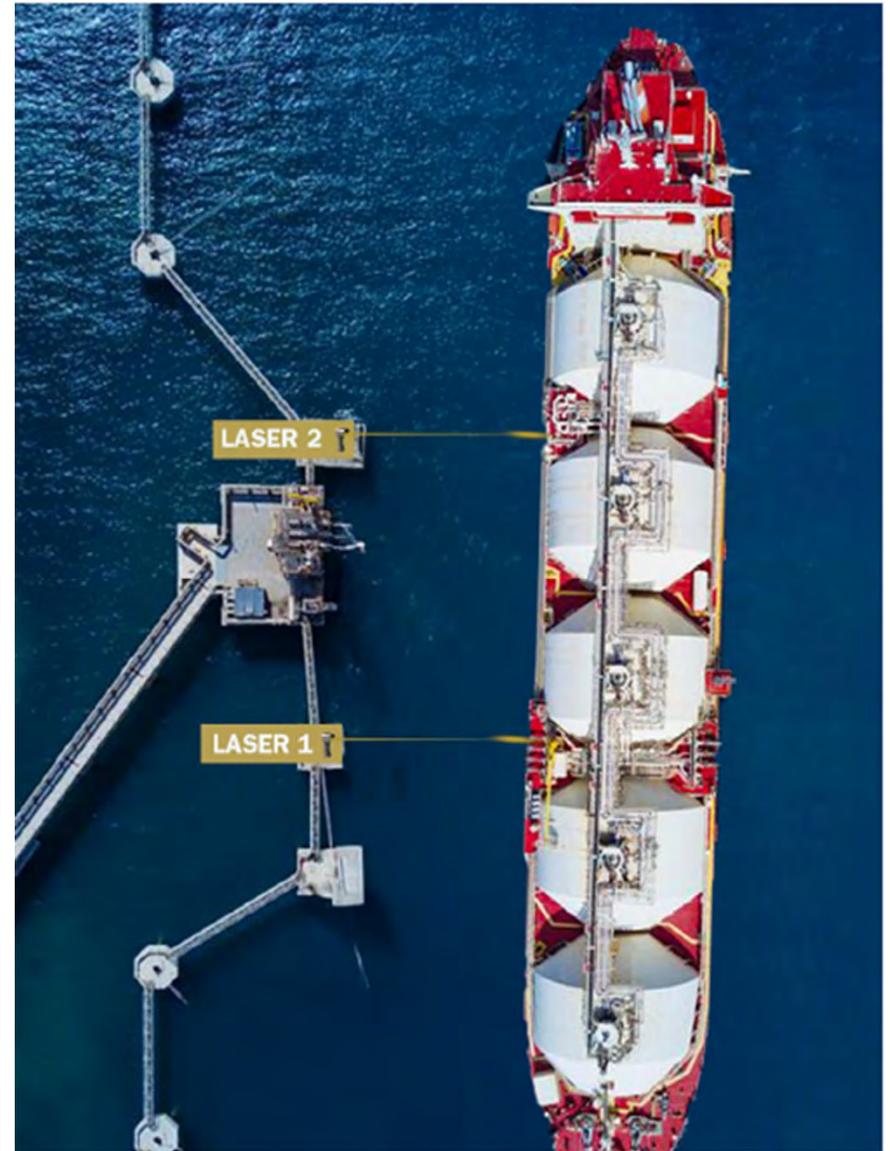
Supply & Install
10x floating foam fenders Seaguard Φ 2.2x4.0m



Berthing Aid System Dolphins 1-4
for both Southern & Northern Side



Supply & Install
10x floating foam fenders Seaguard Φ 2.2x4.0m

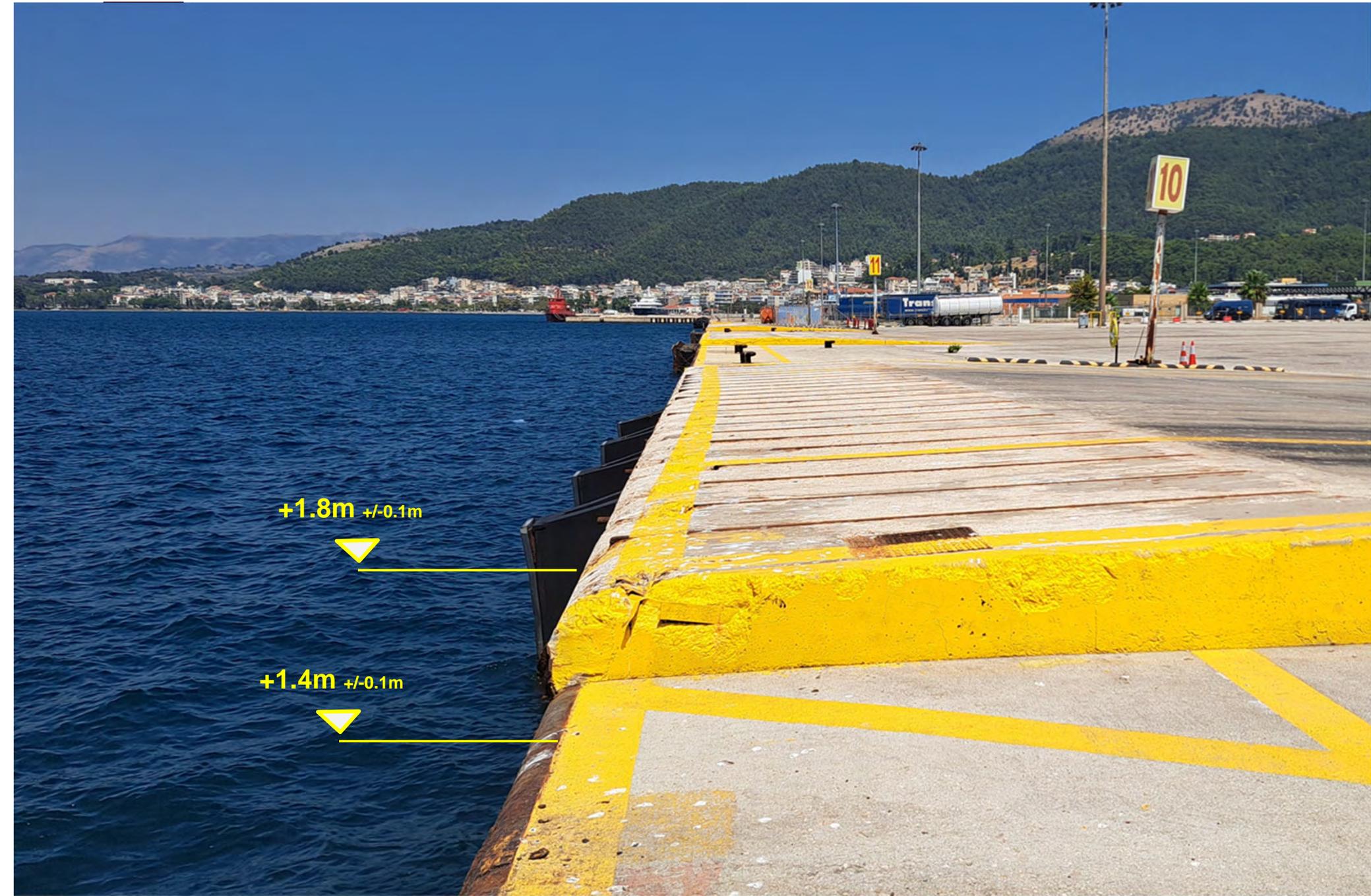


Upgrade Fendering of Ramps

+1.8m +/-0.1m



+1.4m +/-0.1m

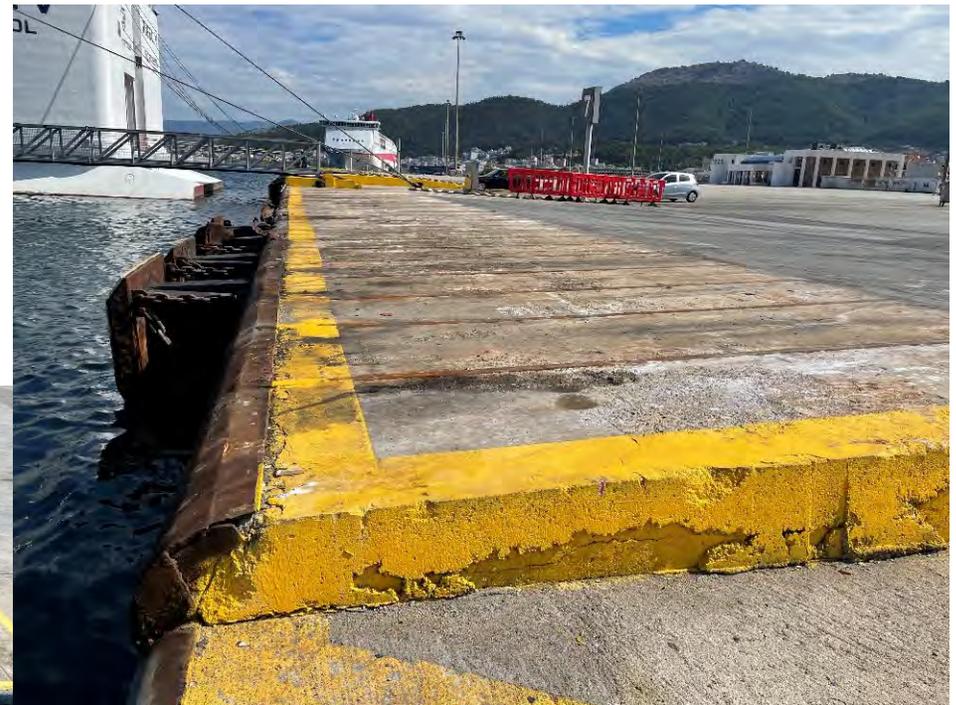


Ramps 3,4,5,6,7 – 9,10,11,12 - 13,14,15



Works:

- 1- Remove / scrap old fixed fenders
- 2- Level Wall Face at fendering level
- 3- Restore steel round coping
- 4- Install pad eyes for floating foam fenders (consider continuous steel pipe)

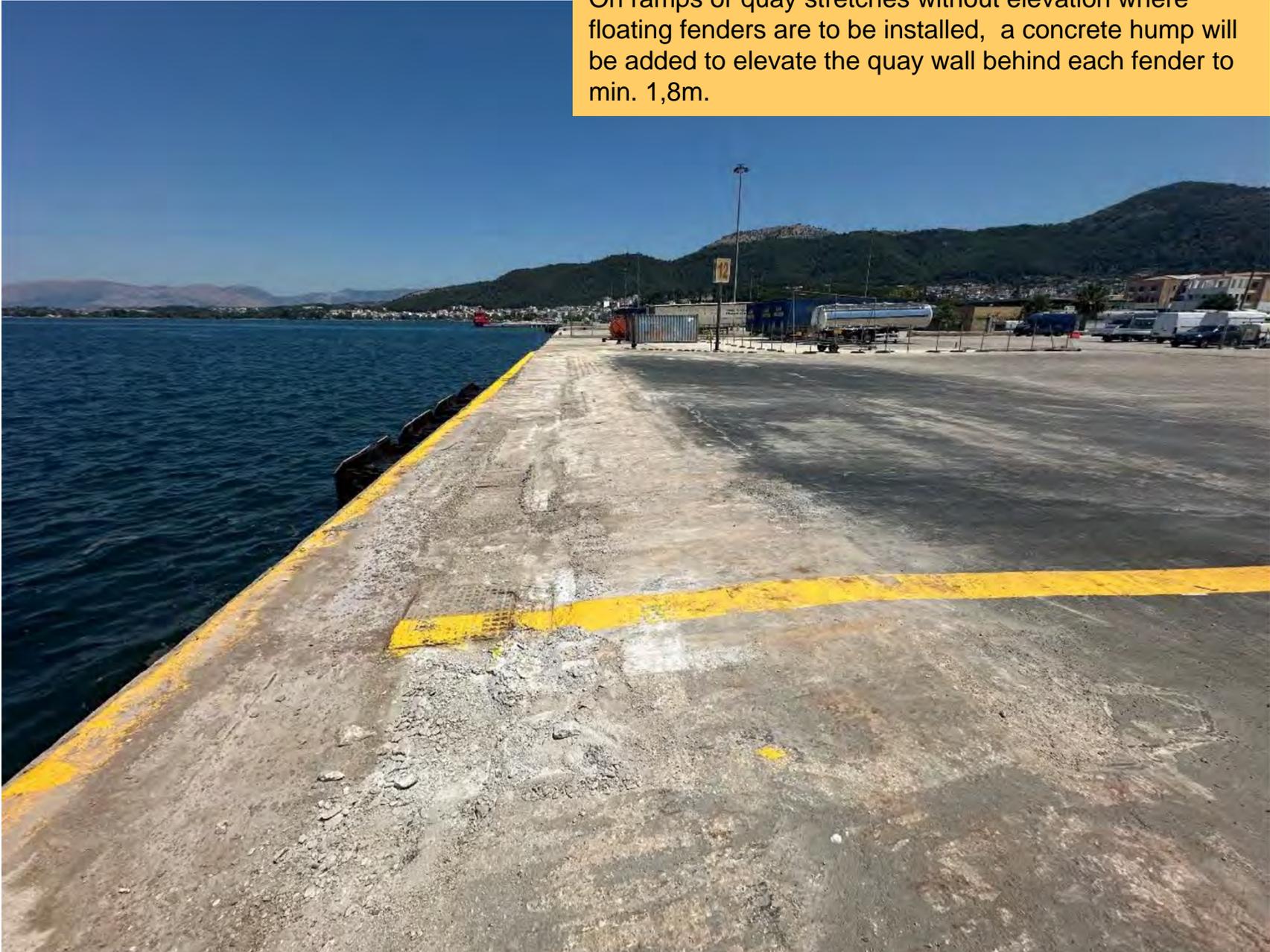




Ramps without hump

Works :

On ramps or quay stretches without elevation where floating fenders are to be installed, a concrete hump will be added to elevate the quay wall behind each fender to min. 1,8m.



Marine Protection Plating for Ramps

Marine Protection Plating For Ramp 12

Marine Protection Plates



Marine protection plates (MPP) are resilient bumpers designed for quays where small vessels are moored, protecting both the quay face and vessel from abrasion. MPP fenders have also been used at the push knee on some tugs.

MPP are ideal for applications where the distance between the boat and dock must be minimized. The design includes a heavy-duty steel back plate which is vulcanized into the rubber body so only a few fixing bolts are required.

MPP are available with a flat or wave-patterned surface design.

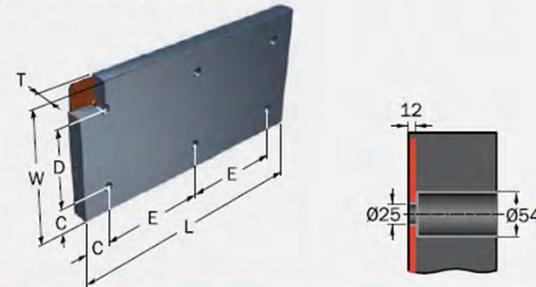
FEATURES

- Heavy duty steel
- Long lasting
- Easy to install
- Custom-made rubber surface
- Customized dimensions
- Superior quality rubber body with high abrasion resistance

APPLICATIONS

- Pontoon protection
- Dock, jetty and monopiles protection where small vessels are moored
- Ideal for applications where distance reduction between boat and dock are required

Marine Protection Plates



TYPE	T	W	L	C	D	E	ANCHORS	WEIGHT
MPP	50	500	1000	100	300	800	4 x M20	45
		600		150	450	700		54
		750		100	450	650		67
MPP	50	500	1500	100	300	650	6 x M20	67
		600		150	450	600		80
		750		100	450	800		100
MPP	75	500	1000	100	300	800	4 x M20	59
		600		150	450	700		71
		750		100	450	650		88
MPP	75	500	1500	100	300	650	6 x M20	88
		600		150	450	600		106
		750		100	450	800		132
MPP	100	500	1000	100	300	800	4 x M20	73
		600		150	450	700		88
		750		100	450	650		109
MPP	100	500	1500	100	300	650	6 x M20	109
		600		150	450	600		131
		750		100	450	800		164
MPP	125	500	1000	100	300	800	4 x M20	87
		600		150	450	700		104
		750		100	450	650		130
MPP	125	500	1500	100	300	650	6 x M20	130
		600		150	450	600		156
		750		100	450	800		195
MPP	150	500	1000	100	300	800	4 x M20	100
		600		150	450	700		121
		750		100	450	650		151
MPP	150	500	1500	100	300	650	6 x M20	151
		600		150	450	600		181
		750		100	450	800		227

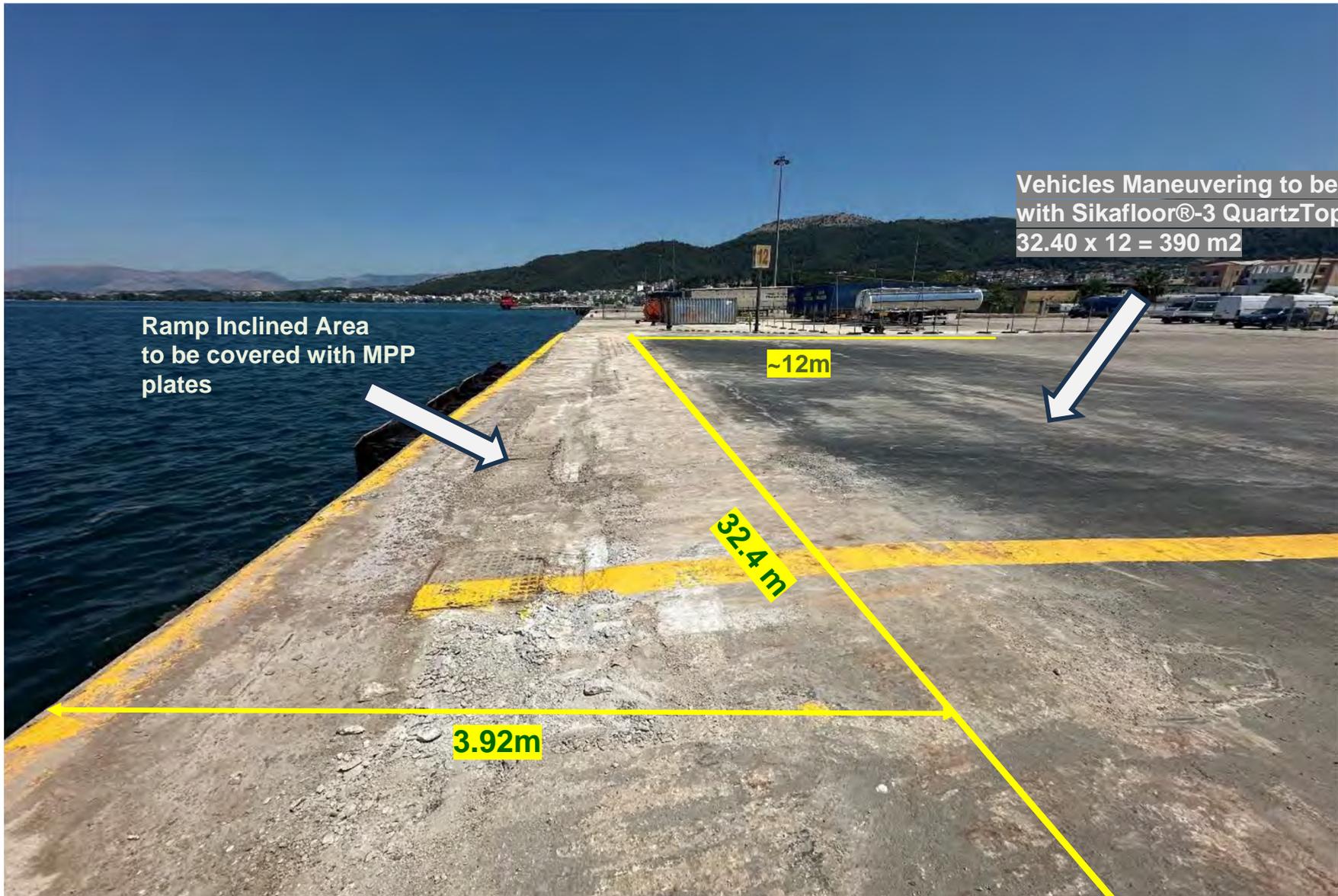
Tailor-made corner elements and other dimensions available on request.

[Units: mm, kg]

Present Condition - Ramp 12



Present Condition - Ramp 12



Ramp Inclined Area
to be covered with MPP
plates

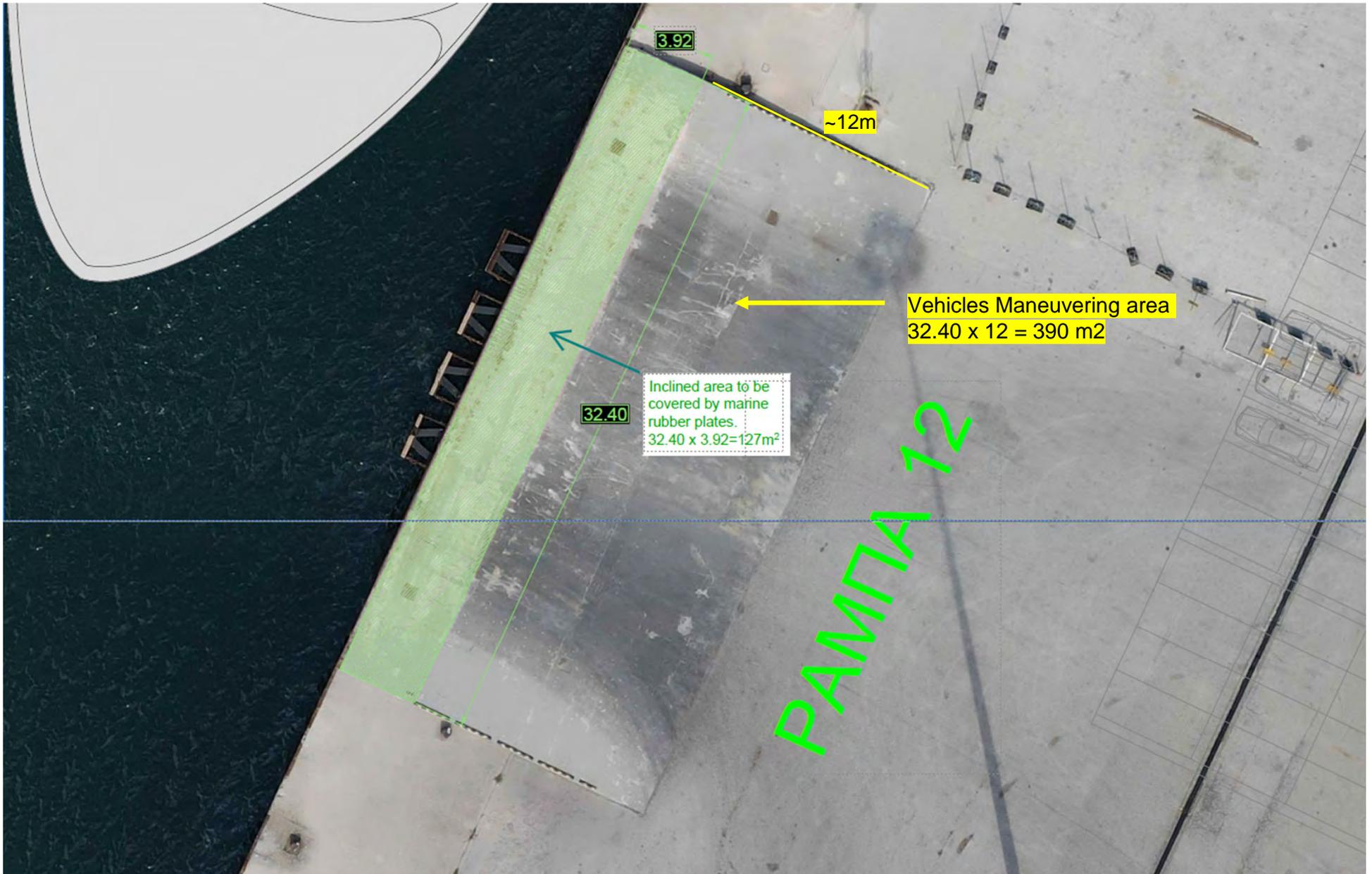
Vehicles Maneuvering to be treated
with Sikafloor®-3 QuartzTop
 $32.40 \times 12 = 390 \text{ m}^2$

~12m

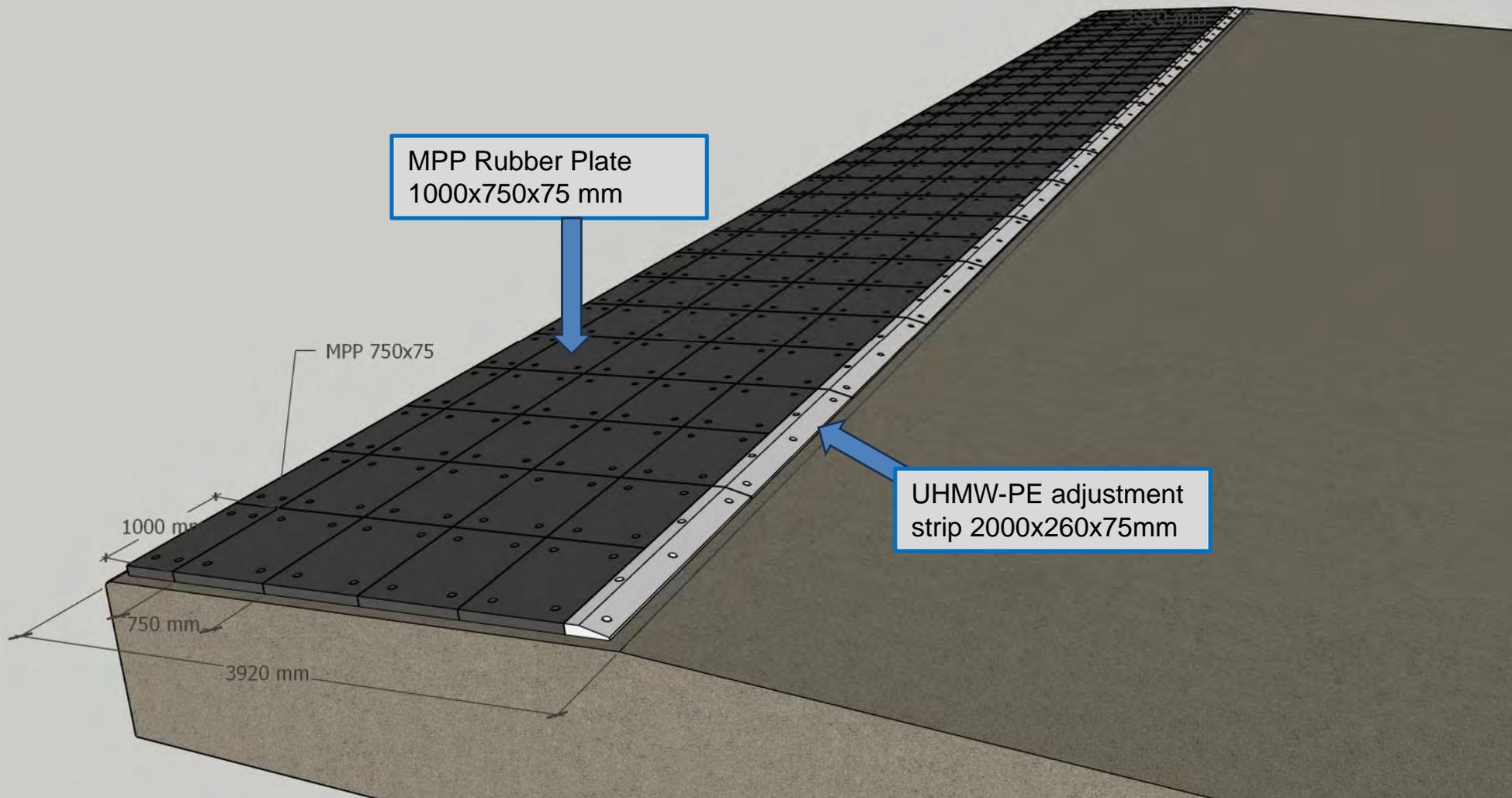
32.4 m

3.92m

Present Condition - Ramp 12



Application of Marine Protection Plating - Ramp 12





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